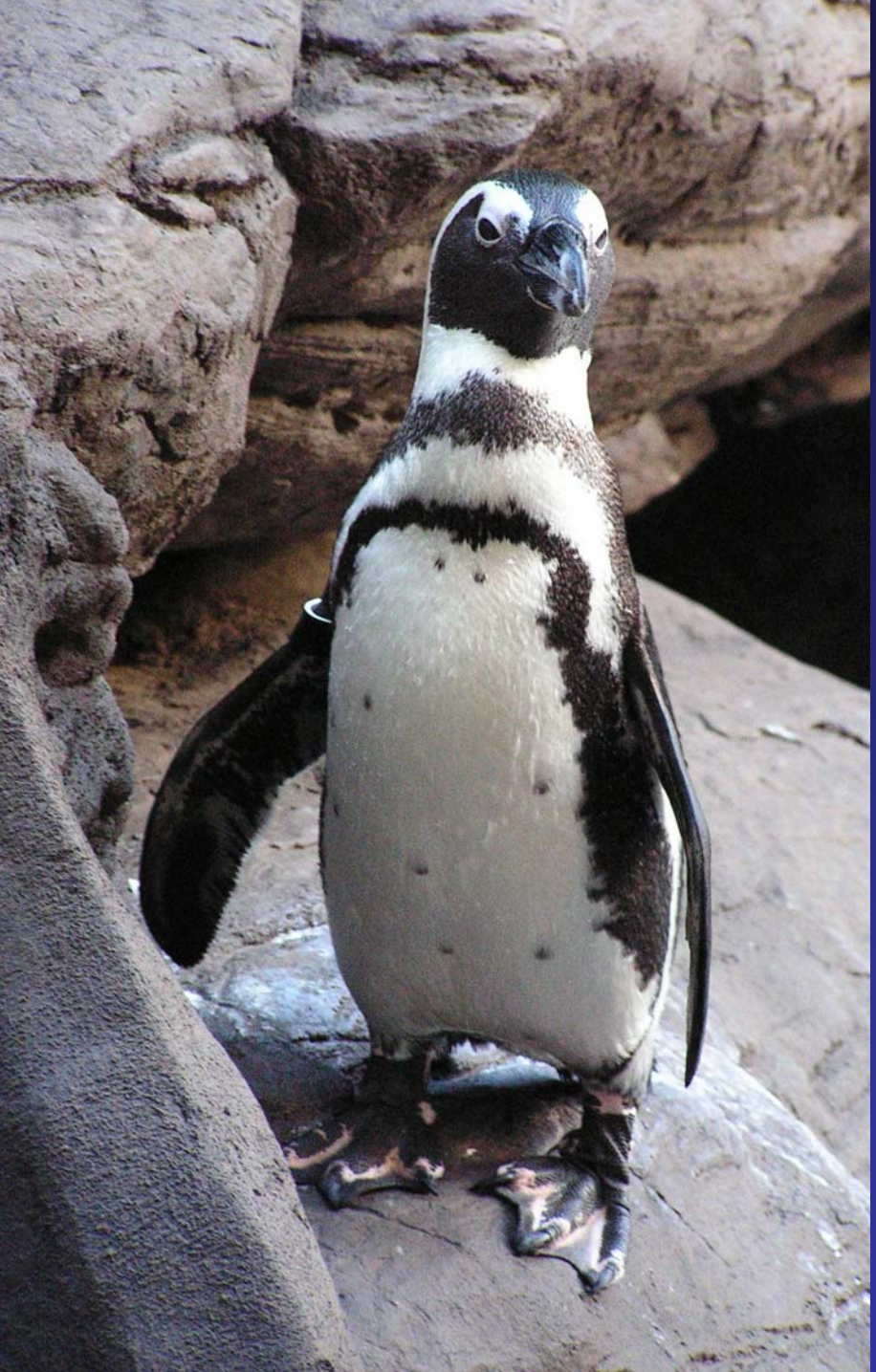


Near Real-Time AMSR-E Motions in the Weddell Sea

Support for the MAUDNess Cruise July – September 2005

Walt Meier, NSIDC

AMSR Science Team Meeting
14 September 2005

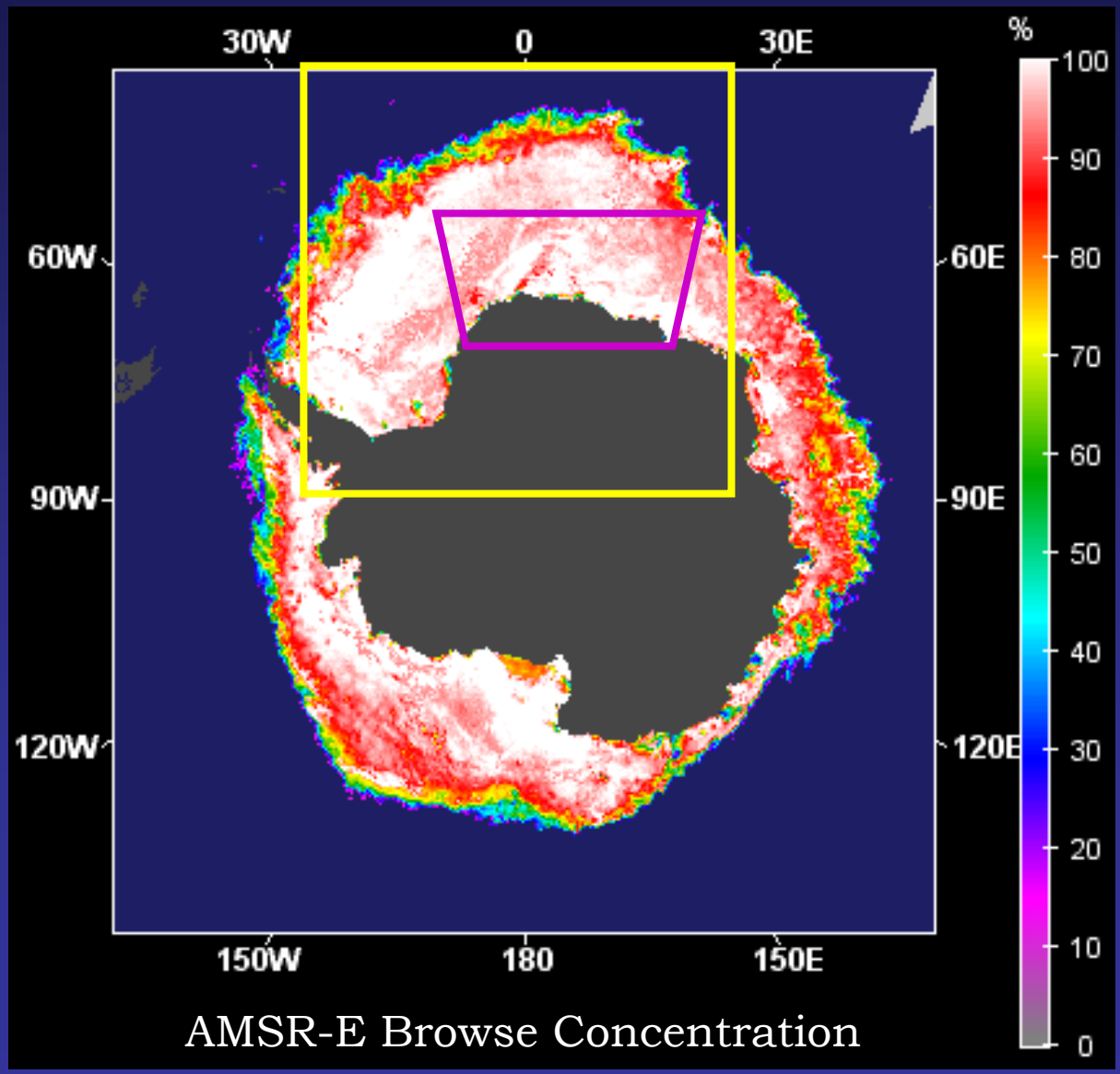
MAUDNess Cruise

- *Maud Rise Nonlinear Equation of State Study*
- NSF funded; Miles McPhee, Chief Scientist
- 20 July – 18 September 2005 on R/V Nathaniel B. Palmer
- Objectives: Measure physical oceanography variables, particularly relating to polynyas and deep-water formation
- NSIDC providing NRT ice motion and ice concentration support using AMSR-E products

AMSR-E Motions

- Source imagery: 89V and 36.5V daily composites from NRT AMSR-E
- Maximum Cross-Correlation method (Emery and Fowler, Univ. Colorado) on Weddell subset region
- Optimally interpolated to polar stereographic grid at 31.25 km spacing
- Fully automated, operational mode (no QC) – thanks to Jeff Smith (NSIDC)
- Sent daily to ship via e-mail as a compressed ascii file

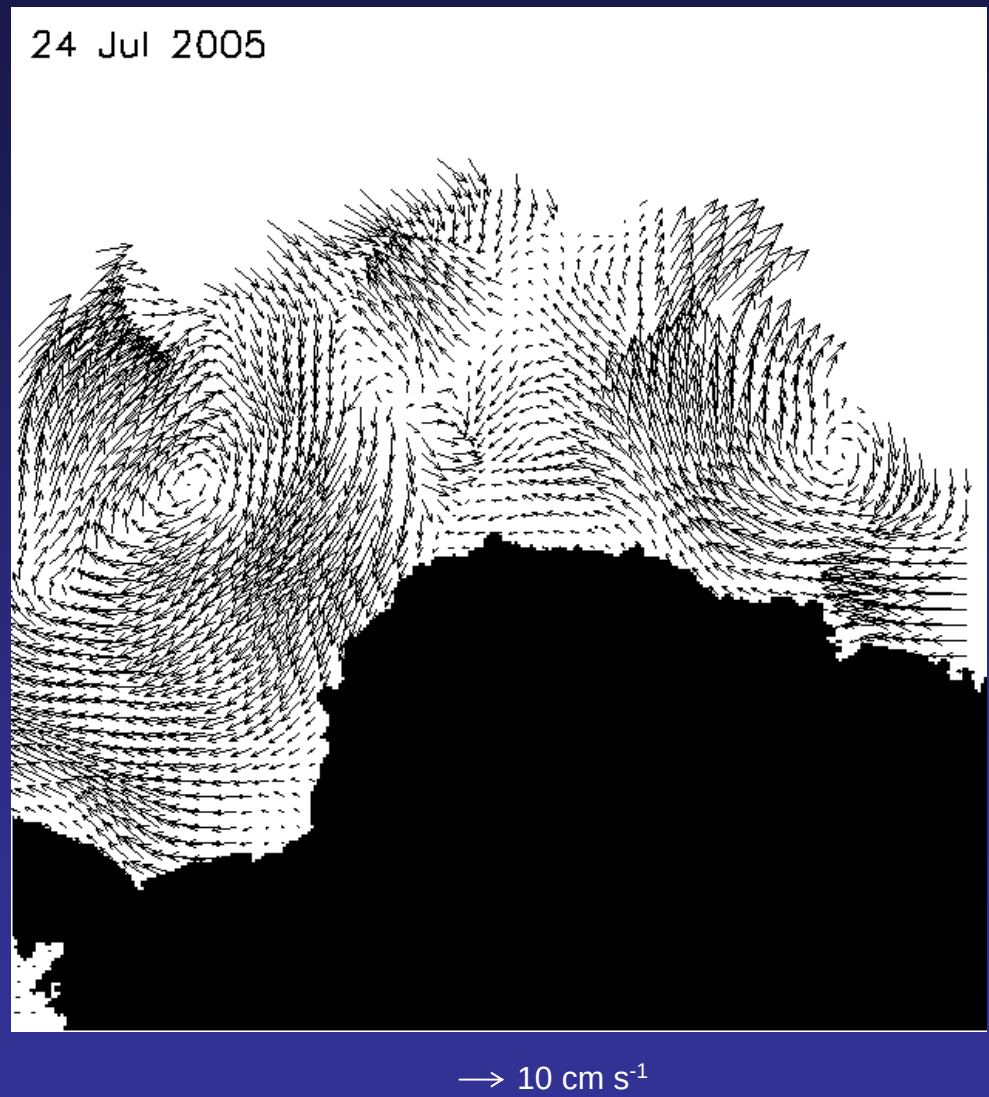
MAUDNess Region



Subset region for AMSR-E ice motions

Maud Rise cruise region

Ice Motions 24 Jul – 7 Sep 2005



Plans for AMSR-E Hemispheric Sea Ice Motion Product

- Update of NSIDC Polar Pathfinder Daily 25 km EASE-Grid Sea Ice Motion Product (AVHRR, SSM/I, buoys) beyond March 2003
  - http://nsidc.org/data/nsidc-0116.html
- Northern and Southern Hemisphere
- Both polarizations of 89 and 36.5 GHz
  - Also will investigate feasibility of 6.9 GHz in Antarctic and during summer melt
- Optimally interpolated with buoys (in Arctic)
- Both EASE-Grid and polar stereo grid products?
- Regularly-produced NRT motions?

A Tour of the Cryosphere

- Coming soon! Fall AGU
- Produced by NASA Scientific Visualization Studio (Goddard) in collaboration with NSIDC, NASA Headquarters, and others
- Goals:
  - Show various components of cryosphere
  - Highlight NASA EOS data products (MODIS, GLAS, AMSR-E), along with other cryospheric data sets
  - Convey importance of cryospheric influence on the global climate